



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/790,123	03/02/2004	Toshinori Tanaka	Q80167	1137

65565 7590 02/16/2007
SUGHRUE-265550
2100 PENNSYLVANIA AVE. NW
WASHINGTON, DC 20037-3213

EXAMINER

VIDAYATHIL, TRESA V

ART UNIT	PAPER NUMBER
----------	--------------

3746

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/16/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/790,123	Applicant(s) TANAKA ET AL.	
	Examiner Tresa V. Vidayathil	Art Unit 3746	

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/2/04, 4/13/06, 9/15/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to because the plane on which a sectional view is taken should be indicated on the view from which the section is cut by Arabic or Roman Numerals corresponding to the figure number where the sectional view is shown in detail. See 37 CFR 1.84(h)(3). Therefore, the sectional view designated as A-A in Fig. 3 should be changed to either 7-7 or VII-VII. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities: All instances where sectional view A-A is referred to should be changed to either 7-7 or VII-VII. See Drawings sections above. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claim 1 recites the limitations:

- a. "the one side of the first housing" in ll. 6-7,
- b. "the one side of the second housing" in ll. 7-8,
- c. "the other side of the first housing" in ll. 9-10,
- d. "the other side of the second housing" in l. 17, and
- e. "the hand of the frame" in l. 25.

There is insufficient antecedent basis for these limitations in the claim.

6. Claim 4 recites the limitation "the hand of the pump" in l. 24. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claims 1-2, 4, and 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Duff 5,868,175 in view of Hamasaki EP 0987 439 A2 in view of Cametti 2,887,062 in view of Carey 6,020,667 and further in view of Sugino 5,590,732.

Duff discloses: first housing (59 and 71) having a support portion (Fig. 4 – between control package 40 and motor 39), second housing 72 fixed to the first housing (59 and 71), control device 40 disposed inside the two housings (Fig. 4), motor 39 disposed on the other side of the first housing (59 and 71) (Fig. 4), motor 39 includes a rotor 66, a stator 63, and frame (61 and 58), rotor 66 having a first bearing (Fig. 4 – between control package 40 and motor 39; Also see col. 3, ll. 59-60) supported by the support portion (Fig. 4 – between control package 40 and motor 39) and a second bearing 57, frame (61 and 58) making up an outer shell of motor 39 and having a

Art Unit: 3746

receiving portion (Fig. 4 – between pump and motor) which receives the second bearing 57, and control device 40 and motor 39 and pump 38 are integrated (col. 3, ll. 40-43 and ll. 58-59, and col. 4, ll. 24-26).

However, Duff does not disclose the following limitations that are taught by Hamasaki: pump 1 disposed on the other side of the second housing (top half of 2), first screw 31 for securing the frame (Fig. 7 –housing of motor 3) to the first housing (bottom half of 2), and a second screw 31 for securing the first housing (bottom half of 2) and the second housing (top half of 2), first screw 31 and second screw 31 are tightened from the hand of the frame (Fig. 7 – housing of motor 3), second housing (top half of 2) has threaded portions (Fig. 7), first screw 31 includes a plurality of first screws 31 (col. 15, l. 56 to col. 16, l. 5), part of the plurality of first screws 31 are tightened to the first housing and the remainder are tightened to the threaded portions (col. 15, l. 56 to col. 16, l. 5 and Fig. 7), second housing (top half of 2) has a threaded portion (col. 15, l. 56 to col. 16, l. 5 and Fig. 7) to which the first screw 31 is screwed, two of the six first screws 31 are tightened to the first housing (bottom half of 2) and the remaining four screws 31 are tightened to the threaded portions (col. 15, l. 56 to col. 16, l. 5 and Fig. 7), pump 1 has a pump housing (5, 50, and 17) fixed by tightening a third screws 52 (col. 15, ll. 40-49) to the threaded portion (Fig. 7) from the hand of the pump (50 and 17), and at least one of the abutment face between the first housing (bottom half of 2) and the second housing (top half of 2) and the abutment face between the first housing (bottom half of 2) and the frame (Fig. 7 – housing of motor 3) has an outer circumference on

which a step portion (Fig. 7 – groove provided on top side of bottom half of 2) is provided

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Duff in view of the above teaching of Hamasaki in order to provide support for the pump (col. 3, ll. 45-46), to simplify assembly (col. 3, 45-47), to secure and align the motor and housings together (col. 15, l. 40 to col. 16, l. 5), and to provide an O-ring groove for sealing purposes (Fig. 7).

Regarding the limitation that a clamp screw is utilized, any equivalent screw able to fasten two elements together can be used because they perform the same function in the same manner. See MPEP § 2144.06. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Duff in view of Hamasaki with an equivalent screw in order to secure and align the motor and housings together (Hamasaki, col. 15, l. 56 to col. 16, l. 5).

Regarding the limitation that a step portion is provided with a chamfer, change of shape fails to patentably distinguish this invention over the prior art (See MPEP § 2144.IV.B). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to modify Duff in view of Hamasaki to change the shape of the step to a step with an additional indentation or chamfer.

However, Duff in view of Hamasaki does not disclose a stator having an iron core (Cametti, col. 2, ll. 70-72) as taught by Cametti. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to have modified Duff in

Art Unit: 3746

view of Hamasaki with a stator having an iron core in order to provide a stator made of a magnetic material (Cametti, col. 2, ll. 70-72).

However, Duff in view of Hamasaki and further in view of Cametti does not disclose a frame 104 including an inner circumferential face into which the stator core 128 is press fitted (Carey, col. 1, ll. 34-36) that is taught by Carey. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to have modified Duff in view of Hamasaki and further in view of Cametti with a stator core press-fit into a motor housing in order to achieve a bond between the stator and housing shell (Carey, col. 1, ll. 34-36).

However, Duff in view of Hamasaki in view of Cametti and further in view of Carey does not disclose a frame 1a made of iron (col. 4, ll. 12-15) that is taught by Sugino. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to have modified Duff in view of Hamasaki in view of Cametti and further in view of Carey with an iron frame in order to assemble a power steering apparatus with ease (Sugino, col. 1, ll. 59-61).

10. Claim 3 rejected under 35 U.S.C. 103(a) as being unpatentable over Duff 5,868,175 in view of Hamasaki EP 0987 439 A2 in view of Cametti 2,887,062 in view of Carey 6,020,667 and further in view of Sugino 5,590,732

As shown above, Duff in view of Hamasaki in view of Cametti in view of Carey and further in view of Sugino discloses all of the limitations substantially as claimed.

Regarding the limitation that the plurality of first clamp screws includes six first clamp screws disposed at substantially regular intervals, duplication of parts and rearrangement of parts fails to patentably distinguish this invention over the prior art (See MPEP § 2144.VI.B-C). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use six first clamp screws disposed at substantially regular intervals in order to secure and align the motor and housing with a circumference of screws (Hamasaki, col. 15, l. 56 to col. 16, l. 5).

11. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Duff 5,868,175 in view of Hamasaki EP 0987 439 A2 in view of Cametti 2,887,062 in view of Carey 6,020,667 in view of Sugino 5,590,732 and further in view of Knife 4,324,532.

Duff in view of Hamasaki in view of Cametti in view of Carey and further in view of Sugino discloses all of the limitations substantially as claimed except for the following taught by Knife: sealant is coated on an abutment face between first housing 20 and second housing 13 and an abutment face between the first housing 20 and the frame 22 (col. 4, ll. 1-19). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Duff in view of Hamasaki in view of Cametti in view of Carey and further in view of Sugino with sealant on abutting housing surfaces in order to retain the housing sections together (Knife, col. 4, ll. 9-19).

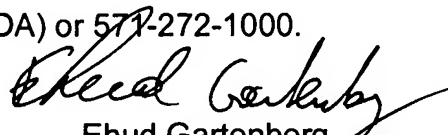
Art Unit: 3746

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tresa V. Vidayathil whose telephone number is (571) 272-3436. The examiner can normally be reached on 9AM - 5:30PM, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ehud Gartenberg can be reached on (571) 272-4828. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Ehud Gartenberg
Supervisory Primary Examiner
Art Unit 3746


Tresa Vidayathil

2/15/07

EHUD GARTENBERG
SUPERVISORY PATENT EXAMINER